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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,335	04/16/2004	Tatsuki Nogiwa	2004-0601A	7872

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EXAMINER

KOCH, GEORGE R

ART UNIT PAPER NUMBER

1734

DATE MAILED: 09/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/825,335

Applicant(s)

NOGIWA ET AL.

Examiner

George R. Koch III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 13-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/16/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of group I, claims 1-12 in the reply filed on 7/13/2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 4, 5, and 7-12 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by Nogiwa (JP 2003-142897, published 5/16/2003).

Nogiwa discloses each and every claimed limitation. See Figures 1-17, which are identical to the figures in the instant specification. See also claims 1-24, which are identical in substance (but not form) to claims 1-24 of the instant application.

It is unclear whether JP 2003-142897 is by "another". Three of the inventors (Tatsuki Nogiwa, Mitsuhiro Ikeda, and Mineo Tokunaga) appear to be in common with the instant application. The fourth inventor of JP 2003-142897, Masaru Yamauchi, appear to different from the fourth inventor of the instant application, Hiroshi Yamauchi.

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However, it is noted that the Japanese translation is a machine translation, and the difference in the names might be due to a translation error.

4. Claims 1-12 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Ishikawa (JP 2001-144430)

As to claim 1, Ishikawa discloses a substrate support jig (see Figure 1) for removably holding a substrate (circuit board 4) when mounting electronic components on the substrate, comprising:

a base member (base fixture 1) having a first surface and a second surface, the first surface and the second surface facing and substantially parallel to each other;

and an adhesive region (adhesives layer 2) having an adhesive layer with a predetermined shape and a predetermined thickness formed on a side of the first surface, the adhesive layer being formed by applying an adhesive material with a predetermined unit tackiness,

wherein a land section (thick portion of base fixture 1, i.e., the portion that is not in the "Zagury section 10") is formed in the adhesive region such that a surface of the land section protrudes from a surface of the adhesive layer by a predetermined amount,

and tackiness between the adhesive material and the base member is lower than tackiness between the adhesive material and the substrate (see paragraphs 0008-0009, which recite that the adhesive is a "weak adhesive").

As to claim 2, Ishikawa discloses the base member has a depression ("Zagury section 10" formed between a main plane and the first surface (see paragraph 0009), the main plane having a predetermined surface roughness and a predetermined flatness and being closer to the second surface than the first surface by a predetermined distance, and the adhesive layer is formed by filling the adhesive material in the depression other than the land section.

As to claim 4, Ishikawa discloses the adhesive layer is formed in such a shape that the substrate can be held at a non-lead section other than a lead section thereof.

As to claim 5, Ishikawa discloses that the flatness of the surface of the adhesive layer is substantially the same as flatness of the main plane, and the substrate is held to the adhesive layer with substantially the same flatness as the flatness of the main plane. Ishikawa utilizes planar surfaces in the figures.

As to claim 7, Ishikawa discloses a distance between the main plane and the second surface is selected from a range of 0.1 mm to 0.6 mm. Ishikawa specifically discloses that the depth is 0.5 millimeters (see paragraph 0009).

As to claim 8, Ishikawa discloses the adhesive material is a silicon coke/mold material, i.e., silicon rubber, which the same as the disclosed adhesive material and therefore the hardness of the adhesive material is selected from a range of 20 to 50 Hs.

As to claim 9, Ishikawa discloses that the adhesive material has a heat resistance (that withstands temperatures exceeding a heating temperature at which a bonding material melts, the bonding material bonding the electronic components to the substrate.

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As to claim 10, Ishikawa discloses the adhesive material is a silicon coke/mold material, i.e., silicon rubber, which the same as the disclosed adhesive material and therefore the material is effective at temperatures exceeding the heating temperature are 185 degrees Celsius and higher.

As to claim 11, Ishikawa discloses the adhesive material is a silicon coke/mold material, i.e., silicon rubber, which the same as the disclosed adhesive material and therefore has abrasion resistance.

As to claim 12, Ishikawa discloses that the base member has positioning marks (in the form of crevice 13, which mates with projected part 12 of the circuit board - see paragraph 0009) provided thereon and used to position the substrate.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa as applied to claims 1 and 2 above, and further in view of Shimizu (JP 2002-374062).

As to claim 3, Ishikawa does not disclose that the base member has through holes penetrating therethrough, the through holes each having a first opening in the surface of the land section and a second opening on a side of the second surface.

However, Shimizu discloses a similar support jig as Ishikawa, and further discloses that the base member (called a conveyance pallet 104 - see Figures 1-4) has through holes (items 108, see Figures 1-4) penetrating therethrough, the through holes each having a first opening in the surface of the land section and a second opening on a side of the second surface. Shimizu carries this element into their invention over from their prior art (see Figures 5 and 6), and discloses that these holes are used to align the flexible printed circuit substrate with the conveyance pallet (see paragraph 0004). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used such throughholes as in Shimizu in order to align the flexible printed circuit substrate with the base member.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa as applied to claims 1 and 2 above.

As to claim 6, Ishikawa specifically discloses that the thickness is ideally 1.6 millimeters (see paragraph 0008, which disclose that the fixture base is made of glass and epoxy with a thickness of 1.6 millimeters). This range is substantially close to the claimed range of 2 to 4 mm. Therefore, Ishikawa makes obvious a distance a distance

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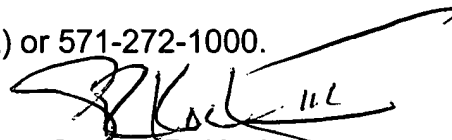
between the first surface and the second surface is selected from a range of 2 mm to 4 mm.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (571) 272-1230 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the applicant can communicate by calling the Federal Relay Service at 1-866-377-8642 and giving the operator the above TDD number. The examiner can also be reached by E-mail at george.koch@uspto.gov <<mailto:george.koch@uspto.gov>> in accordance with MPEP 502.03. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "G. Koch III", is written over the printed name.

George R. Koch III
Primary Examiner
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George Koch
9/23/06